

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

Claims 1 and 11 have been amended by incorporation into them of the subject matter of respective claims 2 and 12, which have been canceled.

In addition some minor errors in several claims have been corrected, and two new dependent claims have been added to features recited in the original disclosure. No new matter has been added.

More particularly the two independent claims in the case now recite that the set of physical dimensions comprises any combination of physical dimensions selected from the group comprising

signal power received by the mobile terminal
starting from the base station,
timing advance,
observed time differences, and
time of arrival.

The systems of the prior art are not able to combine all types of measurements -- power, Timing Advance (TA), Observed Time Difference (OTD), Time Of Arrival (TOA) -- in a flexible way, but

instead are limited at most to combining them in a rigid fashion so that, when the prescribed measurements are not available, the locating system is incapable of adapting itself to the real measurement scenario, and therefore is not able to perform its function (see page 4, line 33 – page 5, line 7 of the International application as published).

The solution of the present invention overcomes these drawbacks by being able to exploit any type of measurement and any combination of available measurements (power, TA, OTD, TOA), and thus it can adapt from time to time to the contingent situation of the measurement scenario. See page 15, lines 24-27.

US 2003/0096622 of Moilanen states in ¶0008 that location information may be obtained by calculating the geographical location from range or range difference (RD) measurements, examples of which are OTD, E-OTD, TOA. The measurements according to ¶0009 are done by at least three base stations covering the area in which the mobile station is currently located. The measurement by each of the base stations gives the distance (range) between the base station and the mobile station or distance difference (range difference) between the mobile station and two base stations. Each of the range measurements generates a circle that is centered on the respective base station, and the mobile station is determined to be located at the intersection of the circles. Each of the range difference measurement by two base stations creates instead a hyperbola.

Moilanen discloses in ¶0046 that each of the base stations provides two range difference (RD) measurement hyperbolas, and ¶¶0049 - 0061 state that the cost function $g(x)$ includes the range difference measurements RD_{ij} between a reference BTS and a i -the BTS. Furthermore ¶0061 states that, for example, in the E-OTD the mobile station may make several OTD measurements, these OTD₁, OTD₂, OTD₃, ..., OTD_n being for a certain BTS pair.

From all this it appears that the solution of Moilanen does not encompass the possibility of exploiting any combination of physical dimensions selected from the group constituted by signal power received by said mobile terminal starting from said at least one base station, timing advance, observed time differences, and time of arrival. In the solution of Moilanen, only homogeneous measurements are used (either OTD, or E-OTD, or TOA). The RD measurements that enter into the cost function $g(x)$ are all measurements of a same physical dimensions, which can be the OTD, or the E-OTD, or the TOA, but not any possible combination of different physical dimensions measurements.

Thus, the solution of Moilanen suffers from the problem that, when the prescribed measurements are not available, the locating system is incapable of adapting itself to the real measurement scenario, and therefore is not able to perform its function.

US 6,728,545 of Belcea has been cited in connection with a feature that we have removed from the independent claims,

rendering this reference moot. Furthermore, Belcea is totally silent about the possibility of exploiting any combination of different types of physical dimensions measurements.

Thus the amended claims clearly define over the cited art under §103. Allowance of all claims and passage to issue are in order.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this case, the examiner is invited to call the undersigned to make the necessary corrections.

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